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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/757,083

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Kensuke Sawada

FUJI 20.849

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EXAMINER

FOTAKIS, ARISTOCRATIS

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

11/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/757,083	Applicant(s) SAWADA, KENSUKE	
	Examiner ARISTOCRATIS FOTAKIS	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/10/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3 – 4 and 6 – 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 – 4 and 7 – 10 is/are allowed.
- 6) ☒ Claim(s) 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 10, 2008 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

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3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al (US 6,882,636) in view of Mohseni et al and further in view of Watanabe et al. ("High speed radio communication technology using parallel combinatory CDMA under multipath Rayleigh-fading interference environment", Telecom Res. Lab., Matsushita Commun. Ind. Co. Ltd., Yokohama, 1996 IEEE).

Kim discloses of a digital baseband modulation apparatus, comprising a plurality of pairs of a spread modulation part, each pair receiving a transmit signal, wherein the spread modulation part (#214, #222, #235, #236, #237, #238, Fig.2)) complex spreads an I component signal and a Q component signal (from #213, #233, #234, Fig.2) with respect to the transmit signal by using spreading code for I axis and spreading code for Q axis (channelization codes, C_{ch1} , C_{ch2} , C_{ch3}) so as to output an output signal comprising an output I component signal and an output Q component signal (to the summers, #215, #223, Fig.2); the digital baseband modulation apparatus further comprising: a duplexing part for duplexing output signals output from the amplitude conversion parts by linearly adding the output signals (#215, #223, Fig.2); and a switch part for switching between the transmit signals and received low speed channel signals to input the separated signals or the received low speed channel signals into the spread

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modulation parts (signal 1 – 3 and TFCI bits 1 - 3, #212, #242, #252, Fig.2, Col 1, lines 55 – 67 to Col 2, Lines 1 - 31).

However, Kim does not teach of an amplitude conversion part decreases the amplitude component of the output signal by a predetermined factor when the output signal is output on the I axis or on the Q axis, and does not decrease the amplitude component of the output signal by the predetermined factor when the output signal is output neither on the I axis nor on the Q axis and a separation part for separating a received high speed channel signal into a plurality of separated signals to be input into the spread modulation parts and wherein the duplexing part adds an offset value to each I component signal when the value of the I component signal is 0 and adds an offset value to each Q component signal when the value of the Q component signal is 0.

Mohseni teaches of a digital baseband modulation apparatus, comprising: a spread modulation unit (complex multiplier, #102, Fig.8) for complex spreading an I component signal (I data signal, Fig.8, #12a) and a Q component signal (Q data signal, Fig.8, #12b) of a transmit signal by using spreading code for I axis (I PN code, Fig.8, #22a) and spreading code for Q axis (Q PN code, Fig.8, #22b) so as to output an output signal comprising an output I component signal (#32a, Fig.8) and an output Q component signal (#32b, Fig.8); and an amplitude control unit that decreases the amplitude component of the output signal by a predetermined factor (factor of $\sqrt{2}$) when the output signal is output on the I axis or on the Q axis (Col 7, Lines 40 – 55, Fig.12A to 12B) and does not decrease the amplitude component of the received signal by the predetermined factor when the received signal is neither on the I axis nor on the

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Q axis (As shown in Figs.12A and 12B, only the points that are on the I and Q axis are decreased); and a quadrature modulation unit (Fig.4) and then adds an offset value (phase offset in order to phase rotate) to each I component signal when the value of the I component signal is 0 and adds an offset value (phase offset) to each Q component signal when the value of the Q component signal is 0 (Fig.12B to Fig.12C, phase rotation, Col 7, Lines 40 - 55).

Watanabe teaches of multicode transmission, wherein the high speed input is split into several low speed signal streams, and each low speed signal stream then treated as a regular DS-CDMA signal in order to accommodate users with high rates of data transmission in a CDMA system (Page 407, System Structure).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used an amplitude conversion part in order to avoid DAC saturation and a phase rotator that would avoid spectral degradation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used a high speed to low speed S/P converter to convert the transmission signal into a plurality of low speed signals in order to accommodate users with high rates of data transmission in a CDMA system to be able to tolerate multipath fading.

Allowable Subject Matter

Claims 3 – 4 and 7 – 10 are allowed.

The indicated allowability of claim 6 is withdrawn in view of the references presented above. Examiner apologizes for any inconvenience that may have caused.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristocratis Fotakis whose telephone number is (571) 270-1206. The examiner can normally be reached on Monday - Thursday 6:30 - 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aristocratis Fotakis/

Examiner, Art Unit 2611

/Chieh M Fan/

Supervisory Patent Examiner, Art Unit 2611